

## AMENDMENTS TO THE SPECIFICATION:

**At page 6, paragraph 2, starting on line 11, please change to read as follows:**

FIG. 36 is an explanatory diagram used for describing the aforementioned shading phenomenon. The shading phenomenon occurring in an infrared imaging apparatus includes two components, namely, a shading component caused by an optical system and a shading component caused by a housing comprising the lens housing 10, the inner shell 18 and the outer shell 20. The shading component caused by the optical system is a shading component due to irradiance distribution which is developed on the surface of the infrared sensor 16 when an image is created by scene components 40 passing through an effective aperture of the optical system. On the other hand, the shading component caused by the housing parts containing the lens housing 10, the inner shell 18 and the outer shell 20 is a housing components 42 incident to the infrared sensor 16. The infrared rays are radiated by the lens housing 10, the inner shell 18 and the outer shell 20 themselves, which constitute the housing as described above. The shading component caused by the housing parts is peculiar to an infrared imaging apparatus and does not exist in a visible image-taking apparatus. The most important problem raised in the shading correction method adopted by the infrared imaging apparatus is how to effectively correct a housing component. As a remark, it should be noted that a housing [[-shading]] component is different from a housing-shading component as follows. The housing component is a component of a ray incident to a sensor device. The housing component is originated from the housing parts. On the other hand, the housing-shading component is used in comparison with the shading component caused by the optical system. The housing-shading component is a shading component caused by a housing component. In the following description, a housing-shading component is also referred to as a shading component caused by the housing. As a shading correction method focusing on a shading component caused by the housing parts, the infrared imaging apparatus adopts the following commonly-known technologies.

**At page 13, paragraph 2, starting on line 21, please change to read as follows:**

Preferably, the second correction unit may correct a housing-shading component by executing the steps of assuming that, for each of the detector elements, the corrected-sensitivity picture data of the detector element is a sum of a housing component of the detector element and a second constant representing a scene component where the housing component is a product of a first constant and the housing response profile for the detector element. Then finding the first constant's value that minimizes a total obtained by summing square of a difference of the sum from the corrected-sensitivity picture data related to the detector elements; and subtracting a product of the housing response profile of the detector element and the first constant from the corrected-sensitivity picture data of the particular detector element for each of the detector elements.